UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,183	04/13/2004	Philippe Lafon	TI-37335	3722

23494 7590 09/27/2010

TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER
AMIN, JWALANT B

ART UNIT	PAPER NUMBER
2628	

NOTIFICATION DATE	DELIVERY MODE
09/27/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PHILLIPPE LAFON

Appeal 2009-007733
Application 10/823,183[1]
Technology Center 2600

Before JOSEPH F. RUGGIERO, MARC S. HOFF,
and ELENI MANTIS MERCADER, *Administrative Patent Judges*.

HOFF, *Administrative Patent Judge*.

DECISION ON APPEAL[2]

---

[1] The real party in interest is Texas Instruments Incorporated.
[2] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-17 and 22-27. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Appellant's invention relates to processor-based method, and related system, directed to overlaying or combining a digital graphics object and a digital picture while both the digital graphics object and the digital picture are in compressed format. A weighted factor (proportional to the value of the luminance values in the graphics object) and a combined chrominance value for the digital picture and the graphics object are derived and used to determine the chrominance value for the composite image. (Abstract; Spec. [0035]-[0040])

Claim 1 is exemplary:

1. A processor-based method comprising:
combining a digital graphics object and a digital picture using weight factor proportional to a plurality of luminance values in the digital graphics object with each of the plurality of luminance values having a value indicating transparency, while both the digital graphics object and the digital picture are in a compressed format; and
displaying the combined digital graphic object and digital picture.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Horton	US 5,969,770	Oct. 19, 1999
Yahav	US 6,057,909	May 2, 2000
Chauvel	US 6,369,855 B1	Apr. 9, 2002
Callway	US 2003/00275517 A1	Feb. 6, 2003
MacInnis	US 6,853,385 B1	Feb. 8, 2005

Claims 1-4, 6-12, 16-17, and 22-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Horton in view of MacInnis.

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Horton, MacInnis, and Chauvel.

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Horton, MacInnis, and Yahav.

Claims 14 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Horton, MacInnis, and Callway.

Rather than repeat the arguments of Appellant or the Examiner, we make reference to the Appeal Brief (filed November 13, 2008) and the Examiner's Answer (mailed December 23, 2008), for their respective details.

ISSUE

Appellant contends that MacInnis teaches selecting an alpha value for each pixel in the graphics object based on a single Y (luminance) value of the pixel (App. Br. 12). Appellant asserts further that MacInnis fails to teach a weighted factor proportional to a plurality of luminance values in the graphics object that indicate transparency (App. Br. 12). Finally, Appellant argues that MacInnis teaches that when the alpha value is derived based upon luma keying, the alpha value of a pixel is set to 0 or 1 (transparent or opaque) which is based on the value of the luminance component of the pixel (App. Br. 10, 11, and 13).

Appellant's contentions present us with the following dispositive issue: Do the references disclose "using a weight factor proportional to a

plurality of luminance values [wherein] each of the plurality of luminance values having a value indicating transparency"?

FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

The Invention

1. The equation for combining the chrominance values based upon the weight factor W which is derived from a plurality of luminance values is: CHR (W) = (1-W) x CHP + (W) x CHO, where CHR is the combined chrominance value, CHP is the chrominance value from the digital picture and CHO is the chrominance value from the graphic overlay (Spec. [0040]).

MacInnis

2. MacInnis discloses that a graphics converter block 90 takes raw graphics data from a FIFO block and converts it to 'YUValpha' ('YUVa') format. One type of 'YUVa' format includes the use of YUV 4:2:2 (i.e. two U and V samples for every four Y samples) plus an 8-bit alpha value for every pixel (col. 9, ll. 23-35).

3. MacInnis discloses that there are four preferred methods to derive the alpha value: 1) deriving the alpha from chroma keying in which a transparent pixel has an alpha equal to zero, 2) deriving the alpha per CLUT entry, 3) deriving the alpha from Y (luma), or 4) deriving the alpha per window where one alpha value characterizes all of the contents of a given window (col. 9, ll. 36-42; col. 112, ll. 11-23).

4. MacInnis discloses that the alpha value may be determined by the luminance (Y) values of the Y components for the pixels of a

compressed graphics image (4:2:2). The legal range of the Y component of a YUV 4:2:2 image typically is between 16 and 235. When the Y component of a graphics image is set to zero, the pixel is typically set to be transparent. Otherwise, the pixel is typically set to be opaque (col. 112, ll. 20-21 and ll. 47-53).

5. MacInnis discloses that the alpha value generally is a relative weight of a layer in the blending of two graphics layers using the equation: Blended (composite image)=alpha x TopLayer + (1-alpha) x BottomLayer (col. 111, l. 65- col. 12, l. 2).

6. MacInnis discloses that when alpha is derived from a chroma/luma keying that a pixel's alpha value is derived by comparing the color component(s) of the pixel to a predefined value(s). If the comparison is positive (in range or compared) then the alpha for the pixel is set to '0' (transparent); otherwise it is set to '1' (opaque) (col. 112, ll. 17-18 and 32-37).

PRINCIPLE OF LAW

Obviousness

On the issue of obviousness, the Supreme Court has stated that "the obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007). Further, the Court stated "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416.

ANALYSIS

Claims 1-4, 6-12, 16, 17, and 22-27

We select claim 1 as representative of this group of claims, pursuant to our authority under 37 C.F.R. § 41.37(c)(1)(vii).

Representative claim 1 recites "combining a digital graphics object and a digital picture using weight factor proportional to a plurality of luminance values in the digital graphics object with each of the plurality of luminance values having a value indicating transparency."

We do not consider Appellant's arguments to be persuasive to show Examiner error. We agree with the Examiner's finding that MacInnis discloses an alpha value that is derived from a plurality of luminance values (Ans. 4-5). MacInnis discloses that the alpha values is a "relative *weight* of a layer in the blending of two graphic layers" using the equation: Blended (composite image)=alpha x TopLayer + (1-alpha) x BottomLayer (FF 5 emphasis added). This equation is similar to equation [4] disclosed in Appellant's Specification for combining the chrominance values based upon the weight factor W which is derived from a plurality of luminance values: CHR (W) = (1-W) x CHP + (W) x CHO, where CHR is the combined chrominance value, CHP is the chrominance value from the digital picture and CHO is the chrominance value from the graphic overlay (FF 1).

MacInnis further discloses that there are several methods to derive the alpha value (FF 3). Specifically, MacInnis discloses that the alpha value may be determined by the luminance (Y) values of the Y components for the pixels of a compressed graphics image (4:2:2) (FF 3 and 4). Contrary to Appellant's assertion, MacInnis *does not* disclose that when the alpha value is derived from the luminance values that it is determined that the luminance

value is within a particular range (App. Br. 11). MacInnis merely discloses a typical, "legal" range for the luminance values to be between 16 and 235 (FF 4).

Further, the alpha value is only set to 0 or 1 when the pixel alpha is derived from a chroma/luma keying *not* when it is derived from a plurality of luminance values (FF 4 and 6). MacInnis discloses that eight bits are reserved to indicate the alpha value (FF 2). Specifically, the 'YUVa' format includes the use of YUV 4:2:2: (i.e. two U and V samples for every four Y samples) plus an 8-bit alpha value for every pixel (FF 2). Certainly, eight bits are not reserved for a value of '0' or '1'only.

Moreover, MacInnis discloses that an alpha value may be determined to represent the contents of an entire window (FF 3).

We agree with the Examiner that it would have been obvious to one of ordinary skill in the art at the time of present invention to use alpha values in blending two graphics layer as taught by MacInnis into the system of Horton because composite alpha values formed by pre-multiplying alpha values with luma values are used to blend the graphic image and the video that results in best visual quality display (Ans. 17).

Therefore, we find that the Examiner has established the prima facie obviousness of the claims, because the combination of Horton and MacInnis discloses a "combining a digital graphics object and a digital picture using weight factor proportional to a plurality of luminance values in the digital graphics object with each of the plurality of luminance values having a value indicating transparency." As a result, we sustain the Examiner's § 103 rejection of representative claim 1 and that of claims 2-4, 6-12, 16, 17, and 22-27.

Claims 5 and 13-15

As noted *supra*, we affirmed the rejection of claim 1 and 12 from which claims 5 and 13-15 respectively depend. Appellant contends that the claims are allowable for the same reasons with respect to independent claim 1.

We therefore affirm the Examiner's rejections of claims 5 and 13-15 under 35 U.S.C. § 103, for the same reasons expressed with respect to the § 103 rejection of parent claims 1 and 12, *supra*.

CONCLUSION

The references disclose "using a weight factor proportional to a plurality of luminance values [wherein] each of the plurality of luminance values having a value indicating transparency."

ORDER

The Examiner's rejection of claims 1-17 and 22-27 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

ELD

TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265